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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,348	03/16/2001	Tom Marttila	6009-4601US	7865

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EXAMINER	
HAMILTON, ISAAC N	
ART UNIT	**PAPER NUMBER**
3724	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/787,348	MARTTILA, TOM	
	Examiner	Art Unit	
	Isaac N Hamilton	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-7,9-22 and 24-26* is/are pending in the application.

4a) Of the above claim(s) *1-3,5-7,9,10,18,20 and 21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-17,19,22,23,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 12, 13, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulke et al (4,606,804), hereafter Schulke, in view of Kvavle (4,901,906). Schulke discloses a method of manufacturing a suspension bar 20; corrosion resistant outer jacket tube 16; copper core 15; machining the outer jacket in column 3, lines 54-64. Schulke does not disclose casting the core in molten form. However, Kvavle teaches casting the core in molten form in column 6, lines 64-68. It would have been obvious to provide casting the core in molten form in Schulke as taught by Kvavle in order to provide a method of producing a composite metal article with an improved metallurgical bond between an inner core metal and an outer metal shell. Note column 2, lines 22-30 in Kvavle. Note heating of outer jacket tube and the core after casting in column 4, line 43-56. Regarding claim 12, note that the molten core and the outer jacket tube are in an enclosure 10 that has an argon atmosphere during casting, which implies that the core and jacket tube are being heated during casting due to the high temperatures of the enclosure.

2. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Schulke and Kvavle as applied to claims 19 and 22 above, and further in view of Golz (4,733,849). The combination discloses everything as noted above, but does not disclose graphite. Golz teaches graphite in column 1, lines 20-30. It would have been obvious to provide graphite in the combination as taught by Golz in order to provide a mold release or parting agent.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Schulke and Kvavle as applied to claims 19 and 22 above, and further in view of Willingham (3,648,757). The combination discloses everything as noted above, but does not disclose a

vertical position. Willingham teaches vertical position in figure 4. It would have been obvious to provide a vertical position in the combination as taught by Golz in order to provide a simple and effective way of filling the outer jacket tube using the force of gravity.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Schulke and Kvavle as applied to claims 19 and 22 above, and further in view of Kawahara et al (JP58038654A), hereafter Kawahara. The combination discloses everything as noted above, but does not disclose preheating the jacket. Kawahara teaches preheating in the English abstract. It would have been obvious to provide preheating in the combination as taught by Kawahara in order to cast composite member under optimum conditions with easy work.

5. Claims 15, 16, 17, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Schulke and Kvavle as applied to claims 19 and 22 above, and further in view of Dwivedi (5,005,631). The combination discloses everything as noted above, but does not disclose immersing the jacket into a melt of the core, and does not disclose immersing the jacket into a melt in a vertical position. Dwivedi teaches immersing the jacket into a melt of the core in figures 1-4, and teaches immersing the jacket into a melt in a vertical position in figures 1-2. It would have been obvious to provide immersing the jacket into a melt of the core and immersing the jacket into a melt in a vertical position in order to prevent large, clumped impurities from being cast in the jacket. Regarding claim 16, figure 3 in Dwivedi is interpreted to be in a horizontal position due to the unsymmetrical shape of container 22, 26, 25. Note that a vertical position is also an inclined position at an angle of inclination equal to 90 degrees.

Response to Arguments

Applicant's arguments filed 07/20/2004 have been fully considered but they are not persuasive. Applicant asserts that Schulke does not disclose an outer jacket of acid-resistant steel or stainless steel. It is believed that Schulke does disclose an outer jacket of acid-resistant steel in column 3, lines 36-38. Schulke describes using, "a lesser electrically conductive and more corrosion resistant metal," which encompasses the use of acid-resistant steel or stainless steel. Applicant asserts that the limitations do not claim a method using clamps, and asserts that Kvavle does not disclose the use of copper as a core. The Examiner agrees that the limitations do not claim a method of using clamps, however, both Kvavle and the limitations disclose injecting a core metal inside an outer shell of a different metal in order to form a metallurgical bond between them. In addition, it is believed that Schulke discloses copper as a core, and Kvavle teaches casting the core in molten form. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, applicant asserts that it is not possible to combine the references due to cladding in Schulke can terminate at the end leaving the core 15 of electrically conductive metal exposed (Schulke, col. 3, lines 23-29). It is believed that the disclosure in Schulke, col. 3, lines 23-29, describes an alternate embodiment, which is not pictured. If read carefully, one would know that Schulke states the embodiment in figure 4 has one machined opening (12, 14) at the end of the suspension bar to expose the core. Applicant

asserts that in order to combine Schulke and Kvavle additional modifications would be necessary to adapt the bar to the casting method of Kvavle. It is believed that Kvavle teaches all modifications that are necessary in order to adapt the bar in Schulke to the casting method. For instance, there may be smaller openings in the locations of openings 12 and 14 that are used during the casting method, then machined away in order permit intimate contact with a conventional current-carrying bus bar as disclosed in Schulke. Additionally, susceptibility to corrosive environments to which the bar may be exposed can inherently be avoided with standard careful casting procedures. Applicant asserts that there are deficiencies with the combinations of Golz, Willingham, Kawahara and Dwivedi. It is believed that these references teach all of the methods disclosed in the claim limitations, moreover, the additional steps in the limitations for the method of casting are all well known and do not distinguish the limitations over the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac Hamilton whose telephone number is 571-272-4509. The examiner can normally be reached on Monday thru Friday between 8am and 5pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 571-272-4514.

In lieu of mailing, it is encouraged that all formal responses be faxed to 703-872-9306.

IH
November 29, 2004

BOYER ASHLEY
PRIMARY EXAMINER